

The Historical Development of the Cyclotron.
Review of Publications.

Pg-2-1/37

In 1944, Livingstone built a small cyclotron ($R = 105$ cm, weight of the magnet only 90 t), which took into consideration all theoretical results of that period. Deuterons were obtained with 15 MeV at 1. A. In 1947, the 1.5 m cyclotron of the N.Y. USSR was put in operation. In 1952 Livingstone described the largest cyclotron, which was constructed in Oak Ridge. In the same year, Afterling and Lindstrom started the operation of the 2.25 m cyclotron. In 1953, Walker and Bremlin reported on a new method for the focusing of multiple charged ions. In 1954, Livingstone reported on a 1.58 m cyclotron, which already employed a slit ion source. In the same year Smith reported on the cyclotron in Washington. In 1955 Caro and his collaborators reported on the cyclotron in Leiden. Further cyclotrons were put into operation in California, in Los Alamos and in Harvard, of which each showed considerable performance in comparison with the preceding ones. In 1956, a standard cyclotron was developed in the USSR (1.2 m) for university purposes. There are 16 figures, and 25 references, 5 of which are in English.

Card ~~41~~

RUMANIA/Nuclear Physics - Installation and Instruments. Methods of C.
Measurement and Research

Abs Jour : Ref Zhur - Fizika, No 7, 1959, 14696
Author : Nemenov, L.M.
Inst :
Title : History of the Development of the Cyclotron
Orig Pub : An. Rom-Sov. Ser. mat.-fiz., 1958, 12, No 3, 114-128

Abstract : Translated from the Journal "Atomnaya energiya," 1958,
4, No 2 (Ref Zhur Fizika, 1958, 19733).

Card 1/1

- 9 -

21(9)

AFTN/RCI

Aleksandrov, A. G., Gaevskii, M. A., Lomakin, N. L., Sazanov, I. P., Matveev, I. M., Mirnov, V. S., Novoselov, N. K., Sazanov, B. S., Fedorov, N. D.

Soviet Scientific Research Institute for Electro-Physical Apparatus in collaboration with the Institute of Atomic Energy, USSR. Institute for High Energy Physics, USSR. The element was designed by B. N. Indutov, Yu. A. Bezobrazov, A. V. Klimov under the guidance of B. V. Rostovtsevsky and B. F. Grishkov (the card 2 are cross sections of the electro-magnet). The radial field force was measured in such a way that the error in the center of the field was less than 0.01% of the force of the field. The error at the measurement of the magnetic moment density of the field few cm's less than 0.007% of the field force.

TITLE:

A 1.20-Meter Cyclotron With a Magnetic Pole Diameter (pole-dia-
mon & diameter polyusov magnitva 120 cm).

PERIODICAL: Atomnaya energiya, 1959, Vol. 7, pp. 140 - 156 (USSR)

ABSTRACT:

The device was developed in the Bauchno-Selskovo "Akademicheskii Vsesoyuznyi Nauchno-Issledovatel'nyi Institut po Elektronike i Radiofizike" (Scientific Research Institute for Electron-Physical Apparatus) in collaboration with the Institute of Atomic Energy, USSR. Institute for High Energy Physics, USSR. The element was designed by B. N. Indutov, Yu. A. Bezobrazov, A. V. Klimov under the guidance of B. V. Rostovtsevsky and B. F. Grishkov (the card 2 are cross sections of the electro-magnet). The radial field force was measured in such a way that the error in the center of the field was less than 0.01% of the force of the field. The error at the measurement of the magnetic moment density of the field few cm's less than 0.007% of the field force.

card 1/4

In the center of the field, the position of the magnetic pole was determined by the magnetic field developed by F. V. Pisopovskiy. For the correction of the magnetic field inside the pole and the diaphragm were used, which are installed between the pole and the lid of the vacuum chamber (additional views are shown). The lid of the vacuum chamber was assembled and the assembly of the resonance conductor and of the acceleration chamber and the resonance conductor (there are additional views). The detailed sketch was constructed by A. I. Alab'yev [1]. Shukarev, B. P. Karyaneev under the supervision of B. I. Proshakov. The whole high-frequency installation is shown in a block diagram and there is a short description of it. The high-frequency section was developed by G. M. Drabkin, B. V. Tsvetkov and Yu. Yu. Prokof'yev under the supervision of A. S. Peakin. The vacuum system was composed by Yu. L. Michalev and B. M. Karpenko. The movement of ions in the ion source and in the central part of the cyclotron is of special importance. This movement was thoroughly studied by I. M. Rubtsov. He developed a special deflector system. The focusing system was composed by Yu. G.

Card 2/4

A 1.20-Meter Cyclotron With a Magnetic Pole Diameter - Sov/59-7-2-6/24

Bogatin. The magnetic quadrupole lenses of B. A. Ostroumov and B. I. Kononova were used in this system. The cyclotron produces 17.7 Mev of deuterons while the extreme range of one particle (it can be up to 20 cm). There is a gridless beam of 100-200A. It is used for normal work and the beam is focused onto a plane of 15.20 cm. The control desk, signal equipment and the special electrical installations were developed by G. Lyublin, B. B. Mervov, P. S. Gorinskikh working under the guidance of G. S. Gor'kovich. Similar cyclotrons developed in the USSR are in operation in Moscow, China, USSR. In the near future a cyclotron of a similar type will be completed in the USSR. The first cyclotron of this type was tested in 1956 by L. M. Basulin, B. A. Laiunov, B. I. Klyushnikov, A. V. Stepanov, G. A. Matveyev, N. V. Voznesenskii, V. A. Sankov and A. I. Astanov from the Scientific Research Institute for Electrophysics. Apparatus and I. I. Afanasyev, A. A. Pustynskii and N. A. Malinovskii from the Institute for Atomic Energy of the AD Goss. The magnetic quadrupole lenses were tested at the cyclotron of the AD Goss (AD Zvezda) with the participation of V. A. Sankov. The application of the cyclotron was supervised by A. V. Voznesenskii.

Card 3/4

A 1.20-Meter Cyclotron With a Magnetic Pole Diameter - Sov/59-7-2-6/24

I. E. Fedorov, I. V. Romanov and K. A. Arshenkov. To G. G. Kucher of the Scientific Adviser P. A. Arshenkov, I. E. Fedorov and K. A. Arshenkov jointly aided the testing of the cyclotron and the planning of the planning of 10 flights and 3 Soviet references.

SUBMITTEE: March 12, 1959

S/058/61/000/007/007/086
A001/A101

AUTHORS: Antonov, A.V., Korshunov, Yu.V., Meleshko, Ye.A., Nemenov, L.M.,
Panasyuk, V.S.

TITLE: Ferrite frequency changer for conversion of a cyclotron to the
phasotron system of acceleration

PERIODICAL: Referativnyy zhurnal. Fizika, no. 7, 1961, 37-38, abstract 7B34 (V
sb. "Uskoriteli", Moscow, Atomizdat, 1960, 60 - 72)

TEXT: In order to bring about the proposal on the conversion to the pha-
sotron operation of acceleration of the mass-produced cyclotron with the dia-
meter of electromagnet poles 1,200 mm and to produce 30-Mev protons (instead of
12.6 Mev) in it, the frequency in the acceleration process must be changed by
about 5%. The authors have constructed; for modulation of cyclotron frequency,
a circuit with ferrite core and radio engineering equipment connected with it.
The change of resonance frequency of the dee circuit is brought about by connect-
ing with it an inductance with ferrite core and excitation of the core by alter-
nate current with a frequency equal to that of acceleration cycles. The problem
of selecting the ferrite and the method of connecting the circuit with the fer-

Card 1/2

Ferrite frequency changer ...

S/058/61/000/007/007/086
A001/A101

rite are discussed. The equipment was tested by acceleration of deuterons. Frequency variation in this case amounted to 1.8%. At the final diameter the average stream of deuterons with 2 - 3 μ amp was obtained. The current pulse amounted to 60 - 90 μ amp.

A. Talyzin

[Abstracter's note: Complete translation]

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Card 2/2

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76318
SCV/89-8-3-3.32

AUTHORS: Meshcherov, R. A., Mironov, Ye. S., Nemenov, L. M.,
Rybin, S. N., Kholmovskiy, Yu. A.

TITLE: Ion Acceleration in a Cyclotron With Azimuthal
Variation of the Magnetic Field

PERIODICAL: Atomnaya energiya, 1960, Vol 8, Nr 3, pp 201-208
(USSR)

ABSTRACT: Thomas showed already in 1938 (see ref at end of
abstract) that charged particle motion in cyclotrons
can be made stable in case of radially increasing
fields if one introduces azimuthal variations in
field intensities. Technical difficulties and the
discovery of the self-phasing principle delayed,
however, the use of azimuthally varying magnetic
fields. The authors tested this kind of field in
1957 on a model of the 1.5-m cyclotron (1/2 natural
size). They showed that a combination of iron and
current corrective elements can produce a wide

Card 1/11

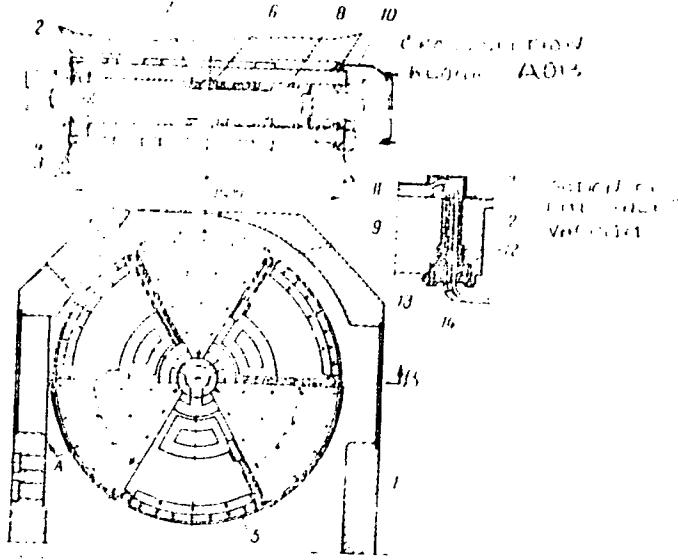
Ion Acceleration in a Cyclotron With
Azimuthal Variation of the Magnetic
Field

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SCV/89-8-3-3/32

range of desired field shapes. In 1958 the authors constructed new full-scale parts for the large cyclotron whose shortest 26.7-m high-frequency wavelength determined the upper limits of the attainable particle energies. The azimuthal variation of the magnetic field with a $\pm 15\%$ depth was achieved by means of three segments. The covers of the accelerator chamber with the corrective elements are shown on Fig. 1. To minimize the h-f losses, all iron surfaces were electrolytically covered by a $\sim 70 \mu$ layer of copper. As seen, elements 5 were placed in the depressions between the segments and served to increase field intensity towards the periphery. Elements for fine correction were located on radii between 190 and 260 mm. Figures 2 and 3 show the central and off-center corrective windings. Characteristics of the beam were measured by means of two screened probes. An aluminum filter served to eliminate charged particles of low energy. The ions originated

Card 2/11

Ion Acceleration in a Cylindrical Waveguide
Antimotional Variation of the Magnetic Field



Card 5 of 11 Summary, Ions, p. 1 of 11

Ion Acceleration in a Magnetic Field
Azimuthal Variation of the Magnetic Field

1. Ion acceleration in a variable azimuthal magnetic field is an elementary and important problem in all fields of ion acceleration research; (2) the effect of the variation of the magnetic field on the ion motion; (3) effect of the variation of the magnetic field on the ion current density distribution; (4) effect of the variation of the magnetic field on the ion current density distribution; (5) effect of the variation of the magnetic field on the ion current density distribution; (6) effect of the variation of the magnetic field on the ion current density distribution; (7) effect of the variation of the magnetic field on the ion current density distribution; (8) effect of the variation of the magnetic field on the ion current density distribution.

From the above it follows that the problem of ion acceleration in a variable azimuthal magnetic field is a very important one. The problem of ion acceleration in a variable azimuthal magnetic field is also very important in the theory of ion cyclotron resonance heating, which is now being developed.

Card 4, 11

Ion Acceleration in a Cyclotron With
Azimuthal Variation of the Magnetic
Field

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Soviet - 3 - 3/30

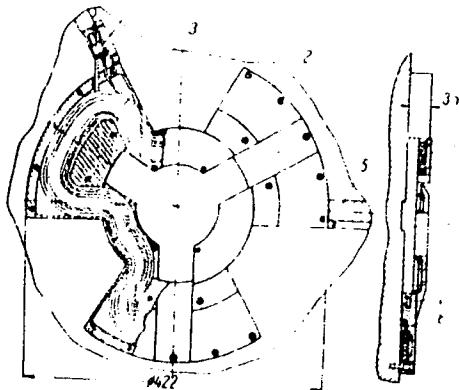


Fig. 2. Central corrective winding: (1) cover of accelerator chamber; (2) frame; (3) copper tube winding; (4) central disk; (5) copper screen; (6) detachable vacuum joint; (7) tubes for water-cooling of frame; (8) tightening plate.

Card 5/11

Ion Acceleration in a Cyclotron With
Azimuthal Variation of the Magnetic
Field

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SOV/8/8-3-3; 32

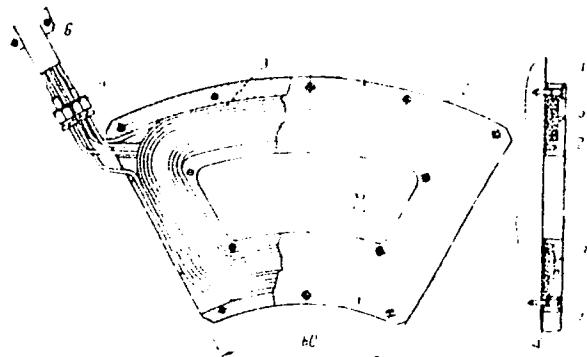


Fig. 3. Corrective windings in the troughs: (1) cover of accelerator chamber; (2) frame; (3) winding; (4) detachable vacuum joint; (5) tubes for water-cooling of frame; (6) cooper screen; (7) frame cover.

Card 6/11

Ion Acceleration in a Cyclotron with
Azimuthal Variation of the Magnetic
Field

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SOV/80-6-5-5, 32

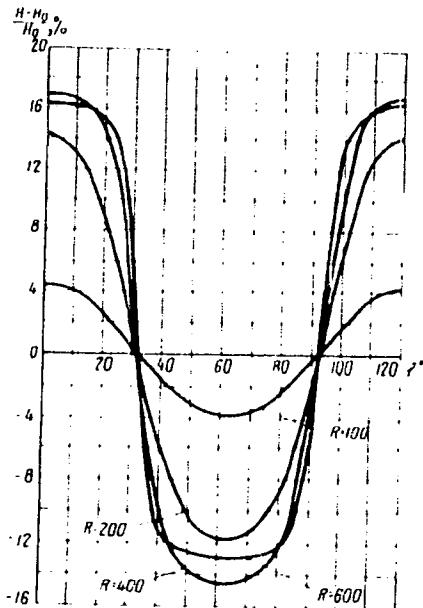


Fig. 6. Magnetic
field intensity versus
angle ϕ .

Card 7 / 11

Ion Acceleration in a Cyclotron With
Azimuthal Variation of the Magnetic
Field

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Figure 8 shows the relationship between the beam current and the radius R. The relatively small decrease of current with radius in the cyclotron with azimuthal variations can be explained by smaller phase losses and strong vertical focusing. The authors note that the central corrective windings showed no favorable effects and produced (with both polarities of the added field) only a decrease of the probe currents. Using an absorber of 150 mJ/cm^2 the authors measured an energy of 21.5 mev at a radius of approximately 650 mm, and this agreed with the calculated value within a 3% error. Energy spread of the ions was approximately $\pm 1.5\%$, while in the conventional cyclotron this spread was approx. $\pm 3\%$. The authors found also that at the 700 mm radius the beam acquired a much larger width (more than 15 mm) which enabled use of much smaller deflecting electrostatic potentials than those

Card 8/11

for Acceleration in a Cyclotron With
Azimuthal Variation of the Magnetic Field

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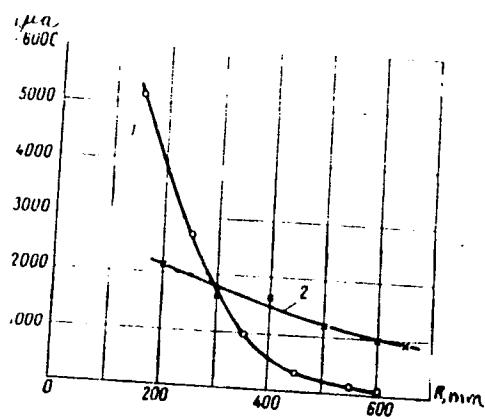


Fig. 8. Current versus radius of probe setting:
(1) when device worked as conventional cyclotron;
(2) for cyclotron with azimuthal variation of the magnetic field.

Card 9/11

Ion Acceleration in a Cyclotron With
Azimuthal Variation of the Magnetic
Field

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needed in conventional cyclotrons, and to obtain outside ion beams of energies up to 22-24 mev. The authors stated that they were able to obtain (using 80-kv potentials across the dees) molecular hydrogen and deuterium beams of energies up to 21 mev and approx. $1,000\mu$ a. At the maximum energy of 23.7 mev the beam current was of the order of 200μ a. The shape of the magnetic field of the 1.5 m cyclotron coincided completely with that of the scaled-down model. N. D. Fedorov, A. P. Babichev, A. S. Knyazyatov, and V. K. Anokhin took part in the magnetic field measurements; S. I. Prokof'yev helped with the covers; N. N. Knaldin gave advice and took part in constructive designs; N. I. Venikov serviced the cyclotron; I. M. Shnaptsev and A. G. Yadykin tested the vacuum; and M. A. Yel'zorov, V. M. Komarov, V. I. Andreyev, and V. S. Kalyayev performed the mounting of the devices. There are 14 figures; and 6 references, 2 Soviet, 4 U.S. The U.S. references are: E. Kelly, R. Pyle, L. Thornton, Rev.

Card 10/11

Ion Acceleration in a Cyclotron With
Azimuthal Variation of the Magnetic Field

76318
SCV-53-5-3-32

Scient. Instrum., 27, 473 (1953); F. Heyn, Kaoe Kong Tat, Rev. Scient. Instrum., 29, 662 (1953); H. Blodner, R. Worsham, C. Goodman, R. Livingston, J. Mann, H. Moseley, G. Trammel, T. Welton, Rev. Scient. Instrum., 29, 819 (1958); L. Thomas, Phys. Rev., 54, 580 (1938).

SUBMITTED: August 6, 1959

Card 11/11

ARZUMANOV, A.A.; VENIKOV, N.I.; MIRONOV, Ye.S.; NEMENOV, L.M.

Magnetic iron channel for extracting and injecting charged particles.
Atom.energ. 10 no.5 461-468 My '61. (MIRA 14:5)
(Magnetic fields)

ARZUMANOV, A.A.; MESHCHEROV, R.A.; MIROMOV, Ye.S.; NEMENOV, L.M.; RYBIN, S.N.
KHOLOMOVSKIY, Yu.A.

Beam exit and energy regulation in a cyclotron with azimuthal magnetic
field variation. Atom.energ. 10 no.5:501-502 My '61.

(Cyclotron)

(MIRA 14:5)

NEMENOV, L.M.

31999
S/089/62/012/001/002.518
B102/B138

246730

AUTHORS: Arzumanov, A. A., Meshcherov, R. A., Mironov, Ye. S.
Nemenov, L. M., Rybin, S. N., Kholmovskiy, Yu. A

TITLE: Experiments on acceleration in, and emission of ions from,
a cyclotron with azimuthally varying magnetic field and
energy regulation

PERIODICAL: Atomnaya energiya, v. 12, no 1, 1962, 12 - 21

TEXT: Problems of formation and correction of magnetic fields used for
ion acceleration are considered. The studies and experiments described
were carried out at the 1.5-m cyclotron of the Ordena Lenina Institute
atomnoy energii im. I. V. Kurchatova AN SSSR (Lenin Order Institute of
Atomic Energy imeni I. V. Kurchatov AS USSR). Azimuthal variation of the
magnetic field is achieved by three iron sectors. Various types of plots
were used to determine the trajectories, current and intensity distribu-
tions of accelerated ions. Their arrangement in the accelerator chamber
is shown in Fig. 3. Magnetic field distribution in the central plane is
described by $H_z(R, \varphi) = H_0 [1 + f(R) + \sum_k F_k(R) \cos k\varphi]$. H_0 - magnetic field

Card 1/4

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Experiments on acceleration.

strength in the center, $f(R) = (H_z - H_0)/H_0$ characterizes the radial field distribution averaged over φ and $F_k(R)$ is the radial distribution function of the amplitude of the k -th harmonic in a Fourier expansion of H_z : $H_z = H_0[1 + f(R) + F(R)\cos k\varphi]$. $F(R)$ - amplitude of first harmonic. In ion acceleration experiments were carried out at $H_0 = 5 \times 10^4$ oersted. Deuterons, neutrons and H_2^+ -ions were accelerated at $H_0 = 10^4$, 13^4 , and 17^4 oersted. The results are shown graphically. The deflection system is also described in detail. It is designed in such a way that the effects of space charge fields are completely compensated. The main parameters of the accelerator and emitted ion beams given in Table 4, were also determined by the method. Results: Deuteron acceleration up to 31.5 Mev can be achieved with the current of the emitted beam ~70 μ A. Energy was regulated in the range of 5 - 17 kev. The deflection system allows beam divergence to be reduced without additional losses of the current of accelerated ions. Small aperture magnetic quadrupole lenses can therefore be used. As the beam is small at the output and the input slit of the magnetic system can be put at this point. The energy of the accelerated ions will be spread over the whole run. The authors thank V. P. Krasnov.

Card 2/2

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B102/B138

Experiments on acceleration...

N. Z. Kubyshkin and S. I. Prokof'yev for assistance. There are 14 figures, 4 tables, and 15 references: 6 Soviet and 9 non-Soviet. The four most recent references to English-language publications read as follows: F. Heyn, Khoe Kong Tat. Rev. Scient. Instrum., 29, 662 (1958); J. Zavennyagin, R. Metshcherov, E. Mironov, L. Nemenov, J. Kholmovsky. Proceedings of the Intern. Conf. on High Energy Accelerators and Instrumentation - CERN, 1959, p. 225; R. Livingston, F. Howard. Nucl. Instr. and Meth., 6, 1 (1959); 6, 105 (1960); 6, 221 (1960); 6, 134 (1960). J. Allen, S. Chatterjee, L. Ernest, A. Jarvin. Rev. Scient. Instrum., 21, 813 (1950).

SUBMITTED: May 27, 1961

Fig. 3. Position of probes in the accelerator chamber.

Legend: (1) accelerator chamber, (2) dees, (3) ion source, (4) multi-segment probe, (5) shielded probes, (6) probes for measuring the current in the emitted beam, (7) probes arranged in the dee.

Table 4. Parameters of the emitted beam.
Card 3/4

NEMENOV, L. M.

40048

S/089/62/013/002/001/011
B102/B104

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AUTHORS: Babichev, A. F., Venikov, N. I., Knyazyatov, A. S.,
Meshcherov, R. A., Mironov, Ye. S., Nemcov, L. M.,
Fedorov, N. D., Kholmovskiy, Yu. A.

TITLE: Control of the magnetic field configuration in a cyclotron.
Atomnaya energiya, v. 13, no. 2, 1962, 125-134

PERIODICAL: Atomnaya energiya, v. 13, no. 2, 1962, 125-134

TEXT Between 1956 and 1959, experiments were made with a model magnet of one-fifth the full size, made of Cr-5 (St.-5) steel, in connection with the redesign of the 1.5-m cyclotron belonging to the Ordona Lenina Institut atomnoy energii im. I. V. Kurchatova AN SSSR (Lenin Order Institute of Atomic Energy imeni I. V. Kurchatov, AS USSR). The pole pieces were either cylindrical (370 mm diameter) or conical (300 mm diameter) and the magnet gap was 90 mm wide. The current in the windings could be kept constant to within $\pm 0.1\%$, and the field strengths were measured with an error of $\pm 0.03-0.1\%$. The following were investigated:
(1) the optimum geometry of the magnet to ensure a field of constant configuration ($\Delta H/H_0(R)$ minimum when H_0 changes), the magnet having

Card 1/3

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Control of the magnetic field ...

cylindrical poles and three pairs of caps 14.5 mm thick of different diameters. The best results were obtained using caps with a diameter smaller than that of the poles. Measurements were made not only for $\Delta H/H_0 = f(R)$ with and without shims, but also for $\Delta H/H_0 = f(r)$, where r is the radius of curvature of the caps. The constancy of the field configuration can be improved by replacing the caps by internal shims.

(2) Correction of the magnetic field by inserting circular coils in the magnet gap between the caps. Experiments were made with six such coils, of different diameters, mounted on a brass frame. Each winding consisted of five turns of a 4 by 0.5 mm copper tube enclosing a flow of water. The field created by the coils $H_w(R)$ with current (150 a) and without current was measured by a differential method and their effect on the field configuration was studied under various conditions. Shimming seems to be the most convenient way of correcting the field. (3) Sector-type windings. These were used for generating a first harmonic and also for regulating the fluid. In the case of magnets with dead turns, the field of the first harmonic was measured in dependence on the radius. (4) Correction of the field by annular windings in the shimming gap. These are less effective in the shimming gap than in the magnet gap. (5) Correction of the field

Card 2/3

S/089/62/013/002/001/011
B102/B104

Control of the magnetic field ...

for azimuthal variation. For this purpose, only one turn (Cu tube 3 by
0.5 mm; maximum current strength 600 A), was used which had the same effect
as in an axisymmetric field. There are 15 figures.

SUBMITTED: August 23, 1961

Card 3/3

L 27379-66 ENT(n) IIP(c)

ACC NR: AP6016374

SOURCE CITE: UR/0031/65/000/010/0003/0012

AUTHOR: Kuznetsov, L. N. (Academy of Sciences of KazSSR)ORG: AN

TITLE: Acceleration of ions to low and medium energies and their use in nuclear physics

SOURCE: AN KazSSR. Vestnik, no. 10, 1965, 3-12

TOPIC TAGS: cyclotron, proton, deuteron, ion, radioisotope, particle interaction, angular distribution, electromagnet

ABSTRACT: The Institute of Nuclear Physics of the Kazakh SSR Academy of Sciences has completed the construction and conducted the trial start-up of a one-and-a-half-meter cyclotron developed for republics of the Soviet Union in 1959 by the Scientific Research Institute of Electrophysical Equipment imeni D. V. Yefremova and a group of staff members of the Institute of Atomic Energy imeni I. V. Kurchatov under the direction of the author. The cyclotron laboratory is housed in a two-story building with a basement. The article gives a brief exposition of the basic characteristics of the cyclotron, which accelerates protons to 17 Mev, deuterons and ions of molecular hydrogen to ~ 22 Mev, and alpha-particles to ~ 44 Mev. All operations are remote-controlled.

It is planned first of all to provide short-lived radioactive isotopes for laboratories of the Institute of Nuclear Physics and scientific establish-

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Card 1/2

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ACC NR: AP6018374

ments of the Kazakh SSR Academy of Science. It is also planned to use the cyclotron for activation analysis and for the determination of impurities in the manufacture of semiconductor transmitters. The main thrust of the work to be done on the cyclotron is the study of the mechanism of the interaction of charged particles with nuclei at low and medium energies. Of great interest is the study of fission in a wide range of low and medium excitation energies up to tens of Mev. These investigations are being conducted in conjunction with physicists at Osninsk, who are investigating fissions during neutron bombardment of nuclei. The task of the Institute of Nuclear Physics is to study this same process when a nucleus is acted on by charged particles. First priority will be given to investigating the energy dependence of the kinetic energy of fission fragments of heavy nuclei and to studying the angular distributions of fission fragments. The design of the electromagnet makes it possible to accelerate polarized particles in the cyclotron, and as soon as sources of polarized ions of sufficient intensity have been developed, such experiments will be undertaken.

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To eliminate rapid obsolescence, much work is being done to modernize the cyclotron as it is being put into operation. This includes redesigning the cyclotron according to the Thomas principle and providing slide control of the energy of the ions being accelerated. Orig. art. has: 8 figures. [JPS]

SUB CODE: 20, 18 / SUBM DATE: none

Card 2/2

L 06139-67 EWT(m) IJP(c)
ACC NR: AP6031170

SOURCE CODE: UR/0361/66/000.002/0003/0015

AUTHOR: Nemenov, L. M.; Anisimov, O. K.; Arzumanov, A. A.; Golovanov, G. N.;
Yezerskiy, V. F.; Kravchenko, Ye. T.; Kruglov, V. G.; Laktionov, I. A.; Meshcherov, R.
A.; Meshcherova, I. V.; Popov, Yu. S.; Prokof'yev, S. I.; Rybin, S. N.; Fedorov, N. D.

ORG: Institute of Nuclear Physics, AN KazSSR (Institut yadernoy fiziki AN KazSSR)

TITLE: Putting the Kazakhstan cyclotron into operation

SOURCE: AN KazSSR. Izvestiya. Seriya fiziko-matematicheskikh nauk, no. 2, 1966, 3-15

TOPIC TAGS: cyclotron, proton accelerator, Mev accelerator, alpha particle / U1502
cyclotron

ABSTRACT: The U-150-2 cyclotron of the Institute of Nuclear Physics of the Academy of Sciences of the Kazak SSR is described. This cyclotron is designed to accelerate protons, deuterons, alpha particles, and multiply charged ions. Energies of 24 Mev are obtained with deuterons. Alpha particles and protons can be accelerated to 48 Mev and 20 Mev, respectively. Sixfold ionized carbon can be accelerated to 140 Mev. The magnetic field in the cyclotron necessary for 20 Mev deuteron production is 14000 oersted; this is produced by a current of 800 amp. The necessary variation of the magnetic field with radius is obtained by the use of annular shims. The high frequency generator and its alignment is described. The dependence of beam current at various

Card 1/2

L 06139-67

ACC NR: AP6031170

final radii is plotted as a function of the potential between the "dees". The authors thank engineers V. A. Borisov, B. L. Vaysman, N. G. Gladenko, senior electronic engineer D. D. Gromov, chiefs of work shifts G. A. Obraztsov and V. E. Oshkin, and chief of service A. I. Tkachev for participation in the work of setting aright the various difficulties involved in setting up the cyclotron. Orig. art. has: 11 figures.

SUB CODE: 18/
20/ SUBM DATE: none

Card 2/2 m/s

NEMENOVA, D.D., red.; PRILEPSKAYA, V.D., tekhn. red.

[New equipment of the "Moskabel'" factory] Novaia tekhnika na zavode "Moskabel'." Moskva, 1961 170 p.

(MIRKA 17:3)

i. Moscow. TSentral'nyy institut nauchno-tekhnicheskoy informatsii elektrotekhnicheskoy promyshlennosti i priborostroyeniya.

NEMENOVA, Kh. M.

1941. Blood
Coagulation. Sov.
1943. Abstr. No.
transfusion of
was studied.
degenerative changes
kidney, and liver.
anesthesia was
vago-motor changes.
of the clinical condition
dogs with cervical
changes in the brain.
spread compression
severe damage
time of the circula-
against shock.

research model. H. M. Nemenova and A. D.
Zhurn. Genetika, 1938, v. 1, 20-22; *Nefrol*, 1941, No.
87192. The condition of shock resulting from
transfusing heterogenous blood into dogs under anesthesia
after repeated transfusions under anesthesia,
degenerative changes were found in the cells of the cerebral cortex,
kidney, and liver. The transfusion of heterogenous blood under
not in all cases accompanied by clinically observable
changes. The anesthetic, while reducing the severity
of the clinical condition, did not however prevent the occurrence
of pathological changes characteristic of shock. In control
dogs with cervical spinal section, who survived 12 days, there
were profound pathological changes in the circulatory system,
resembling cardiac emphysema, and dystrophic
changes in the brain, medulla, and pons. Transfusing spinal dogs
with heterogenous blood resulted in death, and at autopsy edema
and hemorrhage was found. When there is
to the c.n.s. the severity of the damage from the
shock is due to the destruction of the accommodative mechanism
(Russian). H. Aspin

NEMENOVA, N. M.

"Concerning Pathological Changes of Tongue in Pernicious Anemia,"
Stomatologiya, No.3, 1948

Pathological Dept., Central Order Lenin Inst. Hematology and Blood Transfusions, AMS USSR

Jan/Feb 49

USSR/Medicine - Anatomy
Medicine - Blood Transfusion,
Medicine - Complications

PA 42/49T56
"Pathoanatomic Analysis of Post-Transfusion
Complications," N. M. Nemanova, F. M. Shapiro, and
Complications, Cen Ord of Lenin Inst of Hematol and
Pathoanat Lab, Acad Med Sci USSR, 8½ pp

PA Pathoanat Lab, Acad Med Sci USSR, 8½ pp

PA Blood Transfusion, Vol XI, No 1
"Arkhiv Patologii" 42/49T56
Describes nine cases in which death followed blood transfusion.
Diagnosis while patients were alive was post-transfusion shock. This was confirmed in seven cases.
Causes of post-transfusion shock. This was confirmed in seven cases.
Incompatibility in transfusion examination. Causes of post-transfusion shock were: blood group incompatible.
by pathoanatomical examination. Causes of post-transfusion shock were: blood group incompatible.
fusion shock were: blood group incompatible.

Jan/Feb 49

USSR/Medicine - Anatomy (cont'd)

USSR/Medicine - Anatomy (cont'd)
transfusion of infected blood in three cases, and increased sensitivity of recipients due to severe complications were in A(II) blood group.
Submitted 16 Aug 47.

42/49T56

NEMYENOV N. M.

181T56
 USSR/Medicine - Blood Transfusion
 "Functional and Morphological Alterations of
 the Organism of Animals After Transfusion of
 Infected With Sprophobes," M. L. Garfunkel,
 Blood Infected K. M. Dvoylaytakaya-Barysheva
 N. M. Nemyenova, K. M. Lenin Inst of Hematol and
 (Moscow), Cen Order of Min Pub Health USSR

Blood Transfusion, Min Pub Health USSR
 Blood Transfusion, No 3, pp 66-68

"Klin Med" Vol XIX, No 3, pp 66-68
 stabilized with 5% soln of sodium citrate
 blood stabilized with anthracoid bacilli,
 or serum was injected, or sarcinase and
 or serum was A. aerogenes, In some cases,
 B. aerogenes into exptl animals. In some cases,
 jected into exptl animals. In some cases,
 181T56

Mar 51

181T56
 USSR/Medicine - Blood Transfusion
 (Contd)
 condition resembling anaphylactic or hetero-
 transfusion shock was brought about: The only
 difference was that walls of blood vessels
 were severely damaged by the infected blood
 or serum.

Mar 51

KRAYEVSKIY, N.A.; NEMENOVA, N.M.

Acute leukemia. Arkh. pat., Moskva 14 no.4:21-32 July-Aug 1952.
(CLML 23:2)

1. Of the Central Order of Lenin Institute of Hematology and Blood
Transfusion (Director -- A. A. Bagdasarov, Corresponding Member of the
Academy of Medical Sciences USSR).

NEMENOVA, N.M.; GARFUNKEL', M.L.

Pathological anatomy of experimental shock. Report no.1. Probl.
gemat. i perel. krovi 1 no.4:43-48 Jl-~~Ag~~ '56. (MLRA 10:1)

1. Iz TSentral'nogo ordena Lenina instituta hematologii i perelivaniya
krovi (dir. - chlen-korrespondent AMN SSSR prof. A.A.Bogdasarov)
Ministerstva zdravookhraneniya SSSR.
(SHOCK, experimental.
histopathol. (Rus))

HEMEROVA, N.M.; GARFUNKEL', M.L.; POLUSHINA, T.V.

Pathomatology of experimental shock states. Probl.gemat. i perel.
krovi 1 no.6:55-60 N-D '56. (MLRA 10:1)

1. Is TSentral'nogo ordena Lenina instituta hematologii i perelivaniya
krovi (dir. - chlen-korrespondent AMN SSSR prof. A.A.Bagdasarov)
Ministerstva zdravookhraneniya SSSR.

(SHOCK, exper.

pathol. of liver & lungs)

(LIVER, pathol.

in exper. shock)

(LUNGS, pathol.

same)

KRAYEVSKIY, N.A.; KEMENOVA, N.M.; KHOKHLOVA, M.P.; LORIYE, Yu.I.; PROBATOV, N.A. (Moskva)

Certain complications in X-ray and radiotherapy [with summary in English]. Arkh.pat. 19 no.9:15-26 '57. (MIRA 10:12)

1. Iz TSentral'nogo ordena Lenina instituta gematologii i pereli-vaniya krovi (dir. - deystvitel'nyy chlen AMN SSSR prof. A.A. Bagdasarov)

(RADIOTHERAPY, complication
case reports (Rus))

GARFUNKEL', M.L.; SUZDALEVA, V.V.; NEMENOVA, N.M.; ZARETSKIY, I.I.; GUREVICH, I.B. (Moskva)

Blood transfusion during modified reactivity of the organism caused by action of the spinal cord [with summary in English]. Arkh.pat. 19 no.9:67-73 '57. (MIRA 10:12)

1. Iz patofiziologicheskoy laboratorii (zav. - prof. N.A.Fedorov) i laboratorii fizicheskoy i kolloidnoy khimii (zav. - prof. P.S. Vasil'yev) Tsentral'nogo instituta hematologii i perelivaniya krovi (dir. - chlen-korrespondent AMN SSSR prof. A.A.Bagdasarov) Ministerstva zdravookhraneniya SSSR.

(BLOOD TRANSFUSION, experimental,
in spinal shock (Rus))

(SPINAL CORD, physiology,
eff. of section on reactivity to blood transfusion in
animals (Rus))

NEMENOVA, N. M., Doc Med Sci -- (diss) "Pathological Anatomy
and Differential Diagnosis of Blood Transfusion Shock."
Mos, 1958. 21 pp (Acad Med Sci). 200 copies (KL 40-58.115)

BOGDASAROV, A.A., prof.; NEMENOVA, N.M.; KHOKHLOVA, M.P.; MALANINA, V.N.

Materials on a statistical analysis of leukemia. Probl. gemat. i perel.
krovi 3 no.6:3-10 N-D '58. (MIRA 12:7)

1. Iz Tsentral'nogo ordena Lenina instituta hematologii i pereli-
baniya krovi (dir. - deyствител'nyy chlen AMN SSSR prof. A. A.
Bagdasarov) Ministerstva zdravookhraneniya SSSR.
(LEUKEMIA)

KRAYEVSKIY, N.A., prof.; NEMENOVA, N.M.; ROZANOVA, N.S.

Conditions governing the development of leukemia. Probl.gemat.i perel.
krovi 4 no.11:21-25 N '59. (MIRA 13:3)

1. Iz TSentral'nogo ordena Lenina instituta hematologii i pereli-
vaniya krovi (direktor - deystvitel'nyy chlen AMN SSSR prof. A.A.
Bagdasarov) Ministerstva zdravookhraneniya SSSR. 2. Chlen-korrespon-
dent AMN SSSR (for Krayevskiy).
(LEUKEMIA etiology)

NEMENOVA, N.M.; BERGOL'TS, V.M.

Morphological analysis of systemic diseases in mice induced by
acellular extracts from human leukemic tissues [with summary in
English, p.62]. Probl.gemat. i perel.krovi 4 no.1:28-33 Ja-F '59.
(MIRA 12:2)

1. Iz virusologicheskoy laboratorii Gosudarstvennogo onkologiche-
skogo instituta imeni P.A. Gertsena (dir. - prof. A.N. Novikov) i
iz TSentral'nogo ordena Lenina instituta genatologii i perelivaniya
krovi (dir. - deystvit'nyy chlen AMN SSSR prof. A.A. Bagdasarov).
(LEUKEMIA,

pathol. of systemic dis. in mice induced by
acellular human leukemic tissue (Rus))

KRAYEVSKIY, N.A., prof.; NEMENOVA, N.M.; DANIOVA, L.A.

Essence of leukemoid reactions and so-called reactive reticuloses.
Probl. gemat. i perel. krovi 5 no.3:3-11. Mr '60. (MIRA 14:5)

1. Iz TSentral'nogo ordena Lenina instituta hematologii i perelivaniya krovi (dir. - deystvitel'nyy chlen AMN SSSR prof. A.A.Bogdasarov).
2. Deystvitel'nyy chlen AMN SSSR (for Krayevskiy).
(HEMOPOIETIC SYSTEM—DISEASES)

KRAYEVSKIY, N. A.; NEMENOVA, N. M., doktor med. nauk; KHOKHLOVA, M. P.,
kand. med. nauk; NOVIKOVA, E. Z., kand. med. nauk (Moskva)

Interrelation of osseous and hematopoietic tissues in some diseases
of the blood system. Arkh. pat. no. 6:3-10 '61.
(MIRA 14:12)

1. Iz TSentral'nogo ordena Lenina instituta hematologii i perelivaniya
krovi (dir. - deystvitel'nyy chlen AMN SSSR prof. A. A. Bagdasarov)
2. Deystvitel'nyy chlen AMN SSSR (for Krayevskiy).

(BONE) (HEMATOPOIETIC SYSTEM—DISEASES)

KRAYEVSKIY, N.A., prof.; NEMENOVA, I.M.

Pathological anatomy of chronic myelo- and lympholeukemia.
Probl.gemat.i perel.krovi no.8:3-10 '61. (MIRA 14:9)

1. Iz patologoanatomiceskoy laboratorii TSentral'nogo ordena
Lenina instituta hematologii i perelivaniya krovi (dir. -
deystvitel'nyy chlen AMN SSSR prof. A.A. Bagdasarov) Ministerstva
zdravookhraneniya SSSR. Chlen-korrespondent AMN SSSR (for Krayevskiy).
(LEUKEMIA)

RAUSHENBAKH, M. O., prof.; ZHAROVA, Ye. I.; IVANOVA, V. D.; NEMENOVA, N. M.,
prof.; PROTASOVA, T. G.; MOROZOVSKAYA, L. M.

Leukemogenic and blastogenic properties of some tryptophan
metabolites. Probl. gemat. i perel. krovi no.10:3-8 '61.

(MIRA 1/12)

1. Iz TSentral'nogo ordena Lenina instituta hematologii i pereli-
vaniya krovi (dir. - deyствител'nyy chlen AMN SSSR prof. A. A.
Bagdasarov [deceased]).

(TRYPTOPHAN) (METABOLISM, DISORDERS OF)

NEMENOVA, N.M.; MANTEYFEL', V.M.; CHERNOV, G.A.

Histochemical changes in the enterochromaffin cells of the duodenum
in acute radiation sickness. Biul. eksp. biol. i med. 3[1.e.53]
no.3:109-112 Mr '62.
(MIRA 15:4)

1. Iz TSentral'nogo ordena Lenina instituta hematologii i perelivaniya
krovi Ministerstva zdravookhraneniya SSSR, Moskva. Predstavlena
deystvitel'nym chlenom AMN SSSR N.A.Krayevskim.
(RADIATION SICKNESS) (CHROMAFFIN SYSTEM--RADIOGRAPHY)
(DUODENUM--RADIOGRAPHY)

NEMENOVA, N.M., prof.; ANOKHINA, Yu.V.

Characteristics of chronic leukemias; from pathologoanatomical data of the Central Institute of the Order of Lenin of Hematology and Blood Transfusion for 1957-1960. Probl. gemat. i pereli. krovi 9 no.1:11-17 Ja '64.
(MIRA 18:1)

1. Iz patologoanatomiceskoy laboratorii (zav. - prof. N.M. Nemenova);
TSentral'nogo ordena Lenina instituta hematologii i perelivaniya krovi
(direktor - dotsent A.Ye. Kiselev).

RUTBEFG, R.A.; LOSEVA, G.I.; NEMENCOVA, N.M.; MALANINA, V.N.

Effect of zymosan and its fractions on the properdin level in
the blood and on the morphology of organs and tissues. Biul.
eksp. biol. i med. 57 no.4:127-132 Ap '64.

(MIRA 18:3)

1. Tsentral'nyy ordena Lenina institut hematologii i pereli-
vaniya krovi (dir. - dotsent A.Ye. Kiselev), Moskva. Submitted
February 20, 1963.

KRAYEVSKIY, Nikolay Aleksandrovich, NEMENOVA, Nadezhda Maksimovna;
KHOKHOVA, Margarita Petrovna; AVERBAKH, M.M.; red.

[Pathological anatomy and problems of the pathogenesis of
leukemia] Patologicheskaya anatomia i voprosy patogeneza
leikozov. Moskva, Meditsina, 1965. 417 p.
(MIRA 18.7)

KOROBKINA, G.S.; NEMENOVA, Yu.M.; PAFAMONOVA, E.G.

Effect of various anti-atherosclerotic diets on the elimination of cholesterol in patients with coronary atherosclerosis. Vop. pit. 19 no.2:23-30 Mr-Ap '60. (MIRA 14:7)

1. Iz laboratorii obmena veshchestv i energii (zav. - prof. O.P. Molchanova), tekhnologicheskoy laboratorii otdela pishchevoy tekhnologii (zav. - prof. D.I.Lobanov) i serdechno-sosudistogo otdeleniya kliniki (zav. - doktor meditsinskikh V.P.Sokolovskiy) Instituta pitaniya AMN SSSR, Moskva.
(CHOLESTEROL) (CORONARY HEART DISEASE)
(DIET IN DISEASE)

NEMENOVA, Yu.M.; PROSTYAKOV, K.M.

Nitrogen and cholesterol balance and some metabolic changes in the
dietetic treatment of adiposis. Vop. pit. 19 no.3:52-58 My-Je '60.
(MIRA 14:3)

1. Iz otdela obmena veshchestv i energii (zav. - prof. O.P.Molchanova)
i otdeleniya bolezney obmena veshchestv (zav. - prof. M.N.Yegorov)

Instituta pitaniya AMN SSSR.

(CORPULENCE)

(DIET IN DISEASE)

(NITROGEN METABOLISM)

(CHOLESTEROL METABOLISM)

KOROBKINA, G.S.; NEMENOVA, Yu.M.; PARAMONOVA, E.G.; GVOZDOVA, L.G.
GLUSHNEVA, Z. Ya.

Effect of diets of different qualitative composition on the
clinical course of disease and lipid metabolism in patients
with coronary atherosclerosis. Vop.pit. 22 no.1:17-22 Ja-F'63
(MIRA 16:11)

1. Iz Instituta pitaniya AMN SSSR, Moskva.

*

POKhOVSKIY, A.A.; KURGANNA, I.S.; MIRKOVICH, V.N.; VASIL'YEVA, L.P.;
LUGASIK, I.S.; ALEKSEYEV, N.G.

Belip, a protein product from the Institute of Nutrition of the
Academy of Medical Sciences of the USSR. Iss. pit. 23 no.11-32
Mr-Ap '64.
(MIRKOVICH)

I. Institut pitaniya AMN SSSR, Moskva.

KOROBKINA, G.S.; NEMENQVA, Yu.M.; PARAMONOVA, E.G.; GVOZDOVA, L.G.;
KALININA, N.N.; GIUSHNEVA, Z.Ya.; TUMARKINA, T.I.; MIRER, M.L.

Effect of a phosphatide-enriched diet on cholesterol metabolism in
patients with a history of myocardial infarct. Vop. pit. 23 no.2:
49-53 Mr-Ap '64. (MIRA 17:10)

1. Iz serdechno-sosudistogo otdeleniya kliniki lechebnogo pitaniya
(zav. - doktor med. nauk V.P. Sokolovskiy), otdela tekhnologii
(zav. - prof. D.I. Lobanov) i otdela fiziologii (zav. - chlen-korres-
pondent AMN SSSR prof. O.P. Molchanova) Instituta pitaniya AMN SSSR,
Moskva.

NEMENOVA, Yu.M.; KRYUCHKOVA, G.M.; LYUBINA, A.Ya.; POLEYES, M.E.;
KUVSHINSKIY, M.N., red.

[Manual on the technique of laboratory work] Praktikum po
tekhnike laboratornykh rabot. Moskva, Meditsina, 1965. 207 p.
(MIRA 18:11)

POKROVSKIY, A.A.; PARAMONOV, E.G.; NEMENOVA, Yu.M. (Moskva)

Alimentary factor in the prevention of cardiovascular diseases.
Vest. AMN SSSR 20 no.6:24-30 '65. (MIRA 18;9)

NEMENOVA, Yu. M.

"The Dependence of the Chemical Composition and Morphological Structure of the Bones of Growing and Adult Animals on the Various Quantities of Protein in Their Food Ration." Cand Med Sci, Acad Med Sci USSR, Moscow, 1955. (KL, No 12, Mar 55)

SO: Sum. No. 670, 29 Sep 55--Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (15)

BUDOVY, G.T.; MARTINKOV, I.P.; SHKOL'NIKOV, B.Ya.; GRIGOR'YEV, Ye.A.;
SOLOMIN, V.V.; REZNIK, A.I.; IGNATOVICH, A.A.; OZOROV, A.K.;
GILINSKOY, E.B.; ZHIRNOV, V.Ye.; NEMENSKIY, M.I.; VOLKOV, N.I.,
red.; VOSKANYAN, G.G., red.; KASTROVSKIY, Ye.V., red.; FOMIN,
A.Ya., red.; LISOV, V.Ye., red.; PONOMAREVA, A.A., tekhn. red.

[The district worker's manual; reference and methodological aid
for economic and cultural planning in an administrative dis-
trict] Spravochnik raionnogo rabotnika; spravochno-pravociche-
skoe posobie po planirovaniyu khoziaistvennogo i kul'turnogo
stroitel'stva v administrativnom raione. Moskva, Ekonomizdat,
1962. 439 p. (MIRA 19:7)
(Russia--Economic policy--Handbooks, manuals, etc.)

CZECHOSLOVAKIA / Human and Animal Physiology (Normal and Pathological). Internal Secretions. Thyroid Gland

Abs Jour: Ref Zhur-Biologiya, № 21, 1958, 97688

Author : Nementh, S.

Inst : Not given

Title : Treatment of Thyrotoxicosis by Antithyroid Preparations

Orig Pub: Bratisl. lekar. listy, 1958, 1, № 1, 25-36

Abstract: No abstract

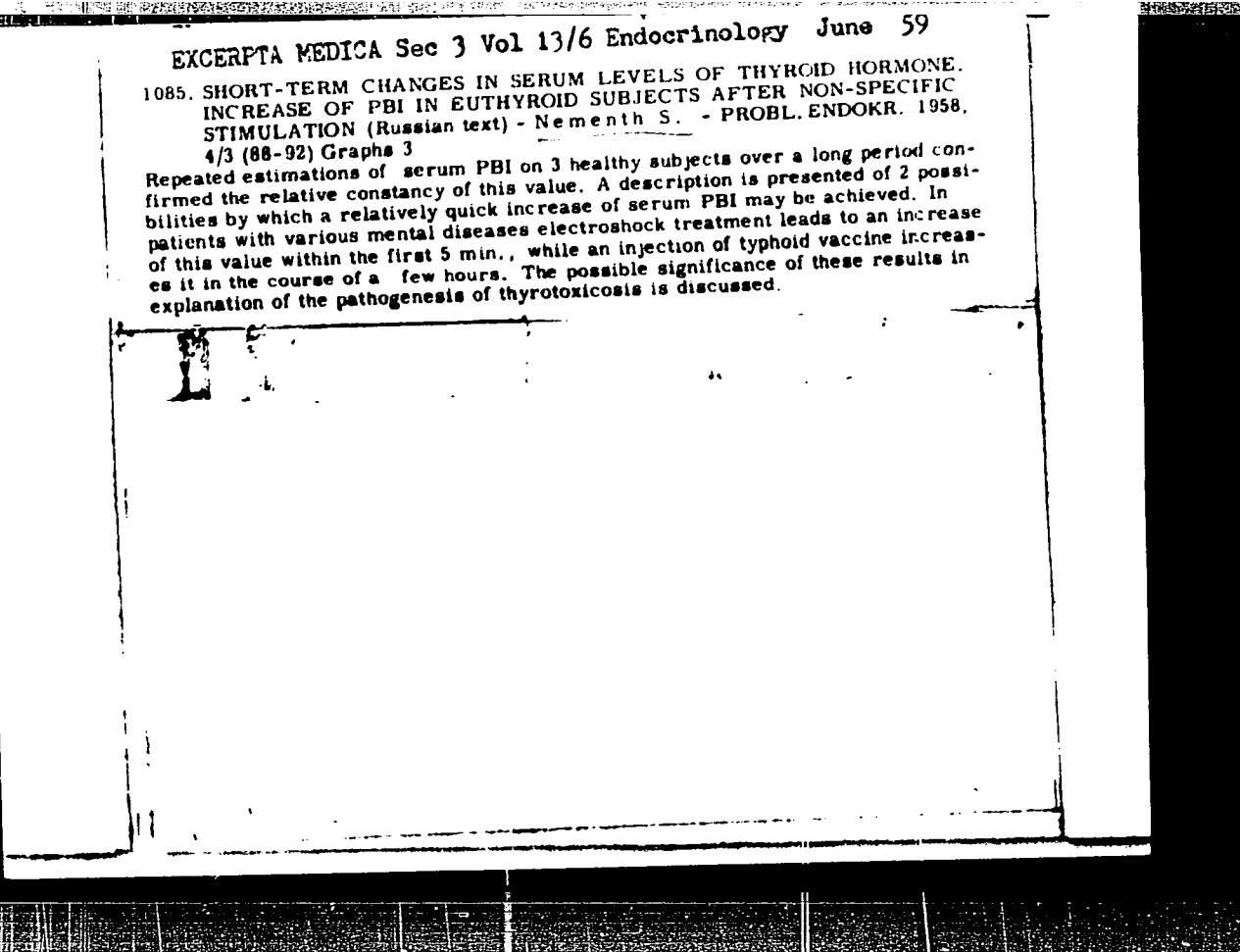
Card 1/1

46

EXCERPTA MEDICA Sec 3 Vol 13/6 Endocrinology June 59

1085. SHORT-TERM CHANGES IN SERUM LEVELS OF THYROID HORMONE.
INCREASE OF PBI IN EUTHYROID SUBJECTS AFTER NON-SPECIFIC
STIMULATION (Russian text) - Nementch S. - PROBL. ENDOKR. 1958,
4/3 (88-92) Graphs 3

Repeated estimations of serum PBI on 3 healthy subjects over a long period confirmed the relative constancy of this value. A description is presented of 2 possibilities by which a relatively quick increase of serum PBI may be achieved. In patients with various mental diseases electroshock treatment leads to an increase of this value within the first 5 min., while an injection of typhoid vaccine increases it in the course of a few hours. The possible significance of these results in explanation of the pathogenesis of thyrotoxicosis is discussed.



NEMENY, Vilmos

"Application of mathematical methods in architectural design" by Dr. Ivan Kadar, Dr. Lorant Nemeth. Reviewed by Vilmos Nemeny. Magy ep ipar 13 no. 5:304-305

TEMESVARY, Ferenc; VASADI, Peter (Budapest XV., Magyar u. 6); FORINTOS, Ernö
(Gyor, Attila u. 13); NEMENYI, Gyula (Miskolc)

Motorists' letters. Auto motor 14 no. 9:6 My '61.

1. Magyar Nemzeti Muzeum tudomanyos munkatarsa, Budapest (for Temesvary).

NEMENYI, Istvan, dr.

Comparative analysis of fertilizer prices. Elet tud 16
no. 39, 29;1219-1222 S '63.

NEMENYI, R.; FARKAS, L.

Flame tempering of crankshafts. II. p. 66.
(Gep., Vol. 9, no. 2, April 1951. Budapest, Hungary)

SO: Monthly List of East European Accessions (EEAL) LC, Vol. 4, no. 9, Sent. 1057. Uncl.

"APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001136510019-4

NEMENYI, Rezso

Flame hardening of cogwheels. II. Gep 12 no.2:76-80 F '69.

APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001136510019-4"

MEMENYI, Rezzo

Flame hardening of the running gear parts of caterpillar vehicles. Mezogazd techn l no.9:6-7 '61.

FEKETE, Laczlo; NEMENYI, Rezso

Temperature measurement by milliscope during flame and induction hardening. Meres automat 9 no.10:303-306 '61.

1. Ganz-Mavag.

NEMENYI, Rezső

An international conference on surface hardening. Műsz elet 16 no.9:6
Ap '61. (EEAI 10:6)
(Machinery industry)

NEMENYI, Rezso

Surface hardening of cogwheels by flame. Gepgyartattechn 2
no.1:8-12 Ja '62.

1. Ganz-Mavag.

FEKETE, Laszlo; NEMENYI, Rezso

Surface hardening of crankshafts. Gepgyartastechn 2 no.6:
201-209 Je '62.

1. GANZ-MAVAG Motorgyár Kokezelouzem.

NEMENYI, Rezso

Flame hardening of borings of machine parts. Gepgyartastechn
2 no.12:455-456 D '62.

1. GANZ-MAVAG,

GYORFI, Endre; NEMENYI, Rezso

Surface hardening of crane running wheels. Gep 14 no.9:337-
342 S '62.

1. Budapesti Műszaki Egyetem (for Gyorfi). 2. GANZ-MAVAG
Mozdony-, Vagon- es Gépgyár, Budapest (for Nemenyi).

NEMENYI, Rezső

Flame hardening of gear wheels. Mezogasd techn 3 no. 2:14-15
F '63.

NEMENYI, Rezso

Soft nitridation. Musz elet 19 no. 15:12 16 Jl '64.

NEMENYI, Rezsö

Soft nitridation. Jarmu mezo gep 11 no.7:275-2"9 Jl '6..

1. Ganz-MAVAG.

1. 20/1, Rezgo

soft nitriding. Ed. 190. C no.1:40-32 JS 165.

1. Gunz-Maving.

~~MENYI~~, Vilmos

Application of electronic calculating machines in the economy of
building. Epites szemle 6 no.5:149-154 '62.

1. Epitesugyi Miniszterium Epitesugyi Dokumentacies Iroda
munkatarsa.

NEMENY, G.

Treatment of impacted fractures of the knee joint. Voj.zdrav.listy
19 no.11-12:260-261 Nov-Dec 50. (CLML 20:5)

KLATSMANYI, Arpad, okleveles vill.mernok; NEMERE, Judit, okleveles
vill.mernok; RIBENKI, Andras, okleveles vill.mernok;
VIZER, Jeno, okleveles vill.mernok

Voltage coupled semiconducting logical circuits. Meres
automut 10 no.8:238-247 '62.

1. Elektronikus Meromuszerek Gyara.

"APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001136510019-4

Nicaragua, Lajos

Meeting of 5/23/86 between [redacted] and [redacted]
163 [publ. 1981]

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CIA-RDP86-00513R001136510019-4"

NEMEROVSKIY, E.I., inzh.

Periodical "Building and road machinery." Mekh. i avtom. preizv. 17
no.10:57-58 0 63. (MIRA 17:1)

NEMEROVSKIY, L.I.; GOROKHOVSKAYA, R.I.

NAPP-60, an intermittent current anesthetic apparatus. Nov.
med. tekhn. no.5:37-50 '61. (MIRA 17:6)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut meditsinskikh
instrumentov i oborudovaniya.

NEVEROVSKIY, L.I.

Analysis of the design of apparatus for the volumetric determination of gas exchange. Nov. med. tekhn. no.1:3-20 '62.
(NIRA 19:1)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut meditsinskikh
instrumentov i oborudovaniya.

"APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001136510019-4

NEMEROVSKIY, L.I.; SIDEI'NIKOV, G.I.

Spirograph of the open type. Nov. med. tekhn. no.3: '4-97 '65.
(MIRA 19:1)

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CIA-RDP86-00513R001136510019-4"

L 17020-66

ACC NR: AP6006347

SOURCE CODE: UR/0413/66/000/002/0070/0071

INVENTOR: Kiselyov, M. I.; Levvinov, I. A.; Mamonovskiy, L. I.; ²⁰
Paretyagina, T. N.; Pistoev, A. P.; Tsarevskiy, V. G. ^B

ORG: none

TITLE: A spirometabograph. Class 30, No. 178027

SOURCE: Izobreteniya, promyshlennyye obrastey, tovarnyye znaki,
no. 2, 1966, 70-71

TOPIC TAGS: spirometabograph, human physiology, human respiration,
human metabolism

ABSTRACT: An Author Certificate has been issued for a spirometabolo-
graph consisting of a dry cavity sensor, absorber, valve housing,
mouthpiece, and a system of tubes. To reduce dead space and to
maintain the physiological conditions for respiration of the subject,
a stopcock has been situated between the inhale and exhale valves and
between the absorber and dry cavity sensor. A variation of the above
can purify the breathing system by virtue of a bellows connected to
the dry cavity sensor which is mounted by means of screws on a
stationary lid. The bellows has a movable cover which can be dis-
connected from the recording mechanism. A third variation is designed

Card 1/2

UDC: 616.24—073.173—7

L 17020-66

ACC NR: AP6006347

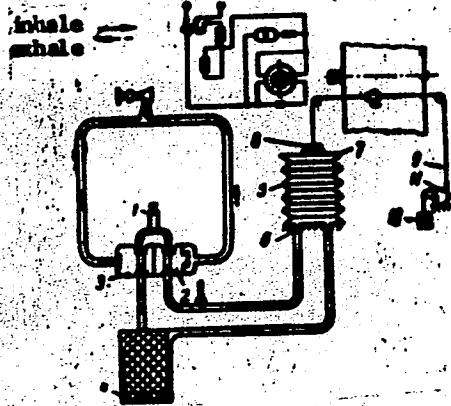


Fig. 1. Spirometabograph

1 - Stopcock; 2 - inhale valve; 3 - exhale valve; 4 - absorber; 5 - bellows connected to the dry cavity sensor; 6 - stationary lid; 7 - movable lid; 8 - spool; 9 - cable of the balancing mechanism; 10 - weight; 11 - cam with adjustable arm.

to increase the accuracy of the investigation. A spool is attached to the movable bellows cover. A cable is attached to the spool which leads to a balancing mechanism consisting of a weight connected to a cam with an adjustable arm (see Fig. 1). Orig. art. has: 1 figure. [CD]

SUB CODE: 06/ SUBM DATE: 08Sep64/ ATD PRESS: 4207

Card 2/2 MJS

NEFERYASHCHENKO, YE.

Sanatoriums

Harmful collective. V psm. profaktivu 13 no. 12, '52.

9. Monthly List of Russian Accessions, Library of Congress, August ² 1953. Unclassified.

"APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001136510019-4

APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001136510019-4"

NEMERKO, M. (*Pol'skaya Narodnaya Respublika*)

Participation of our club in a contest. Biol.v shkole no.6:
69-70 N.D '62. (MIRA 16:2)
(Poland--Nature study)

OVCHAROV, V.M.; NEMEROVETS, I.S. (stantsiya Sosnogorsk, Pechorskoy drogi)

Wind-powered motors used on a division. Put' i put. khoz. no.6:
43 Je '59. (MIRA 12:10)
(Wind power) (Sosnogorsk--Electric power plants)

L-11985-66

ACC NR. AP6000767

SOURCE CODE: UR/0243/65/000/009/0013/0019
51 B

AUTHOR: Nemirovskiy, L. I.

ORG: All-Union Scientific Research Institute of Medical Instruments and Equipment, Moscow (Vsesoyuznyy nauchno-issledovatel'skiy institut meditsinskikh instrumentov i oborudovaniya)

TITLE: Investigation of the work of self-regulating respiratory valves

SOURCE: Meditsinskaya promyshlennost' SSSR, no. 9, 1965, 13-19

TOPIC TAGS: valve, gas flow, nonuniform flow, flow analysis, gas kinetic equation, medical equipment

ABSTRACT: The article describes a new method and apparatus for determining the resistance and gas bypass of self-regulating respiratory valves. Bypass is defined as the amount of gas passing through the valve in the opposite direction during a respiratory cycle. The relationship between valve resistance and gas bypass has significance for oxygen-breathing apparatus, particularly with gravitational valves, in which too much bypass can conceivably lead to patients' hyperkapnia. Gravitational, coil and gasproof valves were tested. In the study of the gravitational valve, coincidence of theoretical and experimental

Card 1/2

UDC: 615.816

L 11985-66

ACC NR: AP6000767

values for stationary flow and sinusoidal respiratory pulse flow was found. Closing of the valve in the idle phase depends on 3 factors: (1) the vacuum required for drop of the valve, (2) valve inertia and friction, and (3) valve weight. For valves up to 3 g, the first factor proved decisive. Greater valve weight at the same ventilation will result in less slippage. Coil valves and gasproof valves were found to react almost the same as the gravitational. Dependence of resistance on ventilation is a constant for gravitational valves but is a variable for coil valves. Absolute slippage values were about the same for all sizes of coil valves. Theoretical and experimental results agreed closely, and it was concluded that the slippage of a self-regulating valve of any kind can be approximately calculated if the geometric parameters and resistance to the operational conditions under study are known. The sequence of bypass determination on the universal suction apparatus is as follows: dependence of rate of suction on pressure drop, change of pressure drop in the working apparatus, mean value of pressure drop at the idle phase, mean rate of suction, time of idle stage, and dependence of valve resistance on lung ventilation. Formulas for these determinations are given. Absolute values obtained for bypass with the various valves in use showed it to be insignificant, involving no danger of hypercapnia. For artificial lungs where valve resistance is unimportant, the gasproof valve can be recommended. Orig. art. has: 3 figures, 6 formulas and 1 table.

SUB CODE: 06 1h/ SUBM DATE: 06Jul64/ ORIG REF: 009/ OTH REF: 000
Card 2/2 H10

NEMESKERI, J.

Anthropologial Kozlemenyek. (magyar biologiai farsaság. Anthropologial Szakosztaly)
Budapest.
Vol. 1, no. 3/4, 1950.

Paleopathological examinations of ancient Egyptian mummies. p. 51.

See: Monthly List of East European Accessions (EEAL) LC, Vol. 5, No. 4, April 1959.
Unclassified.

NEMERTSALOV, P.V.

Homogram for calculating low-pressure gas pipelines. Gaz.prom.
no.3:25-28 Mr '56. (MLRA 10:1)
(Gas, Natural--Pipelines)

NEMERYUK, G. Ye.

180T2

USSR/Chemistry - Analysis, Equipment

Nov 50

"Combination Beaker for Analytical Laboratory,"
G. Ye. Nemeryuk, North-Ossetian Agr Inst

"Zavod Lab" No 11, pp 1317-1320

New beaker represents closed glass vessel with
open neck on top and filtering funnel on side.
Its application in anal lab practice facilitates
such operations as filtering, washing, dissolving
and titration, and considerably decreases time of
anal. Describes some methods of application.

180T2

NEMERYUK, G.Ye.; PAL'TSEV, V.P.; SINEGLAZOVA, V.F.

Factors affecting the migration of ammonium from soils. Pochvovedenie
no.4:55-64 Ap '65. (MIRA 18:6)

1. Severo-Osetinskiy sel'skokhozyaystvennyy institut.

ZONN, S.V., prof.; KOVALEV, R.V., prof. ; RUBILIN, Ye.V.; BENEVOL'SKIY, S.A.,
dotsent; KAZINTSEV, A.O., dotsent; NEMERYUK, G. Ye.; dotsent;
BLAGORAZUMOV, V.; MAGNUSOV, D.C.

In memory of Professor Efim Fedorovich Pavlov. Pochvovedenie
no. 7:120-121 J1 '65 (MIRA 19:1)

MISHENEV, V.A.; KRAMNIK, V.Yu.; TSABOLOV, Yu.A.; NEMRYUK, Yu.G.; AVEDOV, E.Ye.

Smelting ilmenite concentrates from various deposits for high-grade
titanium slag. Titan i ego splav no.9:105-118 '63. (MIRA 16:9)
(Titanium—Electrometallurgy)

MOVSESOV, E.Ye.; MISHELEV, V.A.; KRAMNIK, V.Yu.; NEMERYUK, Yu.G.; TSABOLOV,
Yu.A.; PETROVA, V.A.

Efficient electric conditions in the smelting of titanium slag. Titan
i ego splavy no.9:119-122 '63. (MIRA 16:9)

(Electric furnaces)
(Titanium--Electrometallurgy)